

IN THE ABSTRACT

Please replace the abstract with the following:

~~An integrated biomolecule sensor comprising a plurality of optical fibers whose proximal ends are held together with the end-faces arranged substantially in the same plane and oriented substantially in the same direction and which have probe polymers with different base sequences bound to the core end face at their distal ends. The method and apparatus for fabricating the integrated biomolecule sensor, and the method and apparatus for detecting biomolecules using the integrated biomolecule sensor are also disclosed. Researchers can make their own sensors best suited for individual requirements, and detect the presence of target biomolecules quickly, without need of expensive equipment. This invention provides a kit used for fabricating an integrated biomolecule sensor. The kit includes an optical fiber bundle unit, which holds the proximal ends of the plurality of optical fibers together with the end-face arranged substantially in the same plane and oriented substantially in the same direction, a plate with wells for holding solutions containing probe polymers with different base sequences, and an auxiliary plate having holes, which corresponds to the wells of the plate respectively. According to this invention, researchers and other people can easily fabricate the integrated biomolecule under individual requirements without need of expensive equipment.~~